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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WALSH, BRIAN D

ART UNIT	PAPER NUMBER
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3722

DATE MAILED: 09/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,305

Applicant(s)

ERICKSSON ET AL.

Examiner

Brian Walsh

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,6-9 and 11-24 is/are rejected.
- 7) ☒ Claim(s) 2,4-5 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 147, 165.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the groove extending parallel to the longitudinal axis of the shaft from Claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

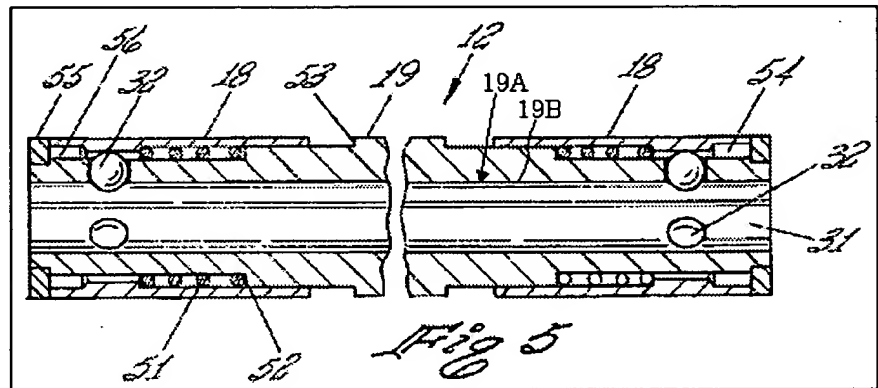
3. Claims 1, 3, 6 – 7, 11, 13 – 15, 17 and 21 – 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Carroll.

Regarding Claims 1 and 21 – 23, Carroll discloses a cutting tool system comprising a clamping device (18) including a clamping block (62) having an aperture (19A) including an

Art Unit: 3722

aperture surface (19B). Carroll further discloses a cutting tool (14) including a front portion at which a cutting edge is inherently disposed, and a shaft (11) extending rearwardly from the front portion, the shaft being fixed in the aperture by a clamping force that is releasable to enable to the shaft to be displaced

relative to the clamping device to a desired position for properly orienting the cutting edge (Col. 1, lines 48 – 50).



The shaft (11) disclosed by Carroll comprises an outer envelope surface (71A) facing the aperture surface (19B). Please refer to figures 5 and 7. Carroll further discloses a spring-loaded device (52) projecting from the aperture surface and yieldably engaging a recess (72B) formed in the envelope surface (19B) of the shaft (11) when the cutting tool (14) and its cutting edge are in the desired position, to provide an indication that the cutting tool is in such desired position by requiring a sudden increase in a force necessary to displace the cutting tool from the desired position (Col. 3, lines 25 – 28).

Regarding Claim 3, it is clear from figures 1 and 6 the shaft (11), when the clamping force is released, is displaceable along a longitudinal axis of the shaft, the spring-loaded device (51) opposing such a longitudinal movement of the shaft.

Regarding claim 6, Carroll discloses a shaft portion (11) and the aperture (19A) define a common longitudinal axis, the envelope surface (71A) being substantially cylindrical, the recess comprising at least one dimple. Please refer to figures 5 and 7.

Art Unit: 3722

Regarding Claim 7, as shown in figure 7, Carroll discloses at least one dimple (72A) comprises a line of dimples extending parallel to the axis.

Regarding Claim 11, Carroll discloses the envelope surface (71A) and the aperture (19A) define a common longitudinal axis, the envelope surface and the aperture surface being of polygonal cross-section (please refer to figures 8 and 9), the recess comprising at least one groove (101) lying in a plane oriented perpendicularly to the axis (figure 10).

Regarding Claim 13, Carroll discloses the recess (72A) has a generally V-shaped cross section (figures 8 and 9), the spring-loaded device (52) including a rotatable element (32) engaging the recess and a spring (51) elastically biasing the rotatable element into the recess.

Regarding Claims 14 and 24, Carroll discloses the rotatable element (32) is a sphere (Col. 3, line 15).

Regarding Claim 15, Carroll discloses the spring (51) comprises a coil spring (figure 5).

Regarding Claim 17, it is clear in figure 6 that Carroll discloses the center of the rotatable element (32) is situated outside of the recess (72A). Please refer to figures 6 and 7.

4. Claims 21 – 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Martindell.

Martindell discloses a tool-clamping device (10) comprising a block (18) having an aperture (22) adapted to receive and clamp a shaft (102) of a cutting tool, a spring-loaded device (60) mounted in the block and including a shank-contact portion (32) projecting into the aperture for yieldably contacting the shaft. Martindell further discloses a rotatable element or sphere (90) biased toward the aperture by a spring (80)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8 – 9 and 12, are rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll in view of Davison.

Regarding Claims 8 – 9 and 12, Carroll discloses the elements as set forth in the above rejections, however, Carroll fails to disclose a recess comprises at least one or a plurality of grooves spaced apart along the axis at regular intervals lying in a plane oriented perpendicular to the axis.

Davison discloses an adjustable tool holder similar to that of the instant invention which allows for a the axial displacement of a tool shank (12), the shank having a cutting tool (14) and attached cutting edge disposed at one end, in relation to a clamping element (26). Davison discloses the use of a spring-loaded element (44) to resist the axial displacement of the shank (12) within the clamping element (46) by way of a plurality of grooves (20) spaced apart the axis at regular intervals (Col. 5, lines 63 – 66).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cutting tool assembly of Carroll to include the perpendicular grooves from Davison, since Davison teaches the use of the grooves to determine accurately the length of the tool extending from the clamping portion (Col. 5, lines 63 – 66).

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll in view of Sugiura et. al.

Carroll discloses all of the elements as set forth in the above rejections, however Carroll fails to disclose the use of an elastomer as a spring to bias the rotatable element into the recess.

Sugiura et. al. discloses the use of an elastomer spring (23) elastically biasing the rotatable element (22) into the recess (6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tool holder of Carroll, with the elements as taught by Sugiura et. al., since Sugiura et. al. teaches the use of urethane rubber (elastomer) for applying pressing pressure to a spherical body in a tool in order to provide a tool to be freely attached and detached from the shank (Col. 5, lines 42 – 46).

7. Claims 18 - 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll in view of Suzuki.

Regarding Claim 18 – 20, Carroll discloses all of the elements as set forth in the above rejections, however, Carroll fails to disclose the recess defines a V-shaped cross section having an angle in the range of 35 – 85°, 55 - 65° or substantially 60°.

Suzuki discloses a coupling device using a rotatable element forced into a recess in a tool. Suzuki explicitly discloses a V-shaped recess formed in a shank for receiving a rotatable element (8) with the center of the rotatable element situated outside the recess and wherein the V-shaped recess has an angle of 60° (Col. 7, lines 5 – 10).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the recess of Carroll to include the cross-section and angular

Art Unit: 3722

characteristics as taught by Suzuki, since Suzuki teaches the use of the V-shaped recess with 60° angle to keep the rotatable element from falling out of the recess (Col. 7, lines 3 – 6).

Allowable Subject Matter

8. Claims 2, 4 – 5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding Claims 2 and 4, examples in the prior art teach the rotation of a tool shank within a clamping block however, the prior art did not disclose nor render obvious a boring bar being rotatable about a longitudinal axis of the shaft in relation to a released clamping block while being opposed by a spring-loaded device.

Regarding Claim 5, the prior art did not reveal nor render obvious the use of a groove recess extending along a longitudinal axis common to the shaft and aperture to be engaged by a spring-loaded device necessitating a sudden increase in force to displace the cutting tool from a desired position.

Regarding Claim 10, the prior art did not disclose nor render obvious the spacing of groove lying in a plane oriented perpendicular to the shank axis at 10 mm.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hoopman, Quiring, Misuraca, Gustafson, Armbrust, Davidson, Kasmeier et. al. and Johnson et. al. all disclose tool carrier systems similar to that of the instant invention

Art Unit: 3722

Faxing of Responses to Office Actions

9. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9302. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Walsh whose telephone number is (703) 605-0638. The examiner can normally be reached on Monday - Friday 7:30 A.M. to 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (703) 308-2159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

BDW

BDW

September 9, 2002

Daniel W. Howell

DANIEL W. HOWELL
PRIMARY EXAMINER
ART UNIT 322

3722